CLAIMS

1. A method for treating tumors, which comprises administering a tumor antigen protein selected from the group consisting of:

(a) a protein comprising the amino acid sequence of SEQ ID NO: 2, and

(b) a protein that is encoded by a polynucleotide which hybridizes with a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 1 under stringent hybridization conditions comprising 6XSSC, 50% formamide, and 0.5% SDS and a temperature of 42°C,

wherein said protein of (a) and (b) give rise to tumor antigen peptide(s) that bind(s) to an HLA antigen and are recognized by cytotoxic T lymphocytes.

2. A tumor antigen peptide that is a partial peptide of a protein consisting of the amino acid sequence of SEQ ID NO: 2, and that binds to an HLA antigen and is recognized by cytotoxic T lymphocytes.

3. The tumor antigen peptide of claim 2 wherein the HLA antigen is HLA-A24 or HLA-A2.

4. The tumor antigen peptide of claim 3, which comprises an amino acid sequence shown in any one of SEQ ID NOs: 3-52.

5. The tumor antigen peptide of claim 4 which comprises an amino acid sequence shown in any one of SEQ ID NOs: 3-9 and 25-29.

6. A derivative of the tumor antigen peptide of claim 4, in which the amino acid residue at position 2 and/or the C-terminus in the amino acid sequence shown in any one of SEQ ID NOs: 3-52 is substituted by another amino acid residue, and in which the derivative binds to an HLA antigen and is recognized by cytotoxic T lymphocytes.

7. A derivative of the tumor antigen peptide of claim 5, in which the amino acid residue at position 2 and/or the C-terminus in the amino acid sequence shown in any one of SEQ ID NOs: 3-9 and 25-29 is substituted by another amino acid residue, and in which the derivative binds to an HLA antigen and is recognized by cytotoxic T lymphocytes.

8. The derivative of claim 6, in which the amino acid residue at position 2 in the amino acid sequence shown in any one of SEQ ID NOs: 3-24 is substituted by tyrosine, phenylalanine, methionine, or tryptophan, and/or the amino acid residue at the C-terminus is substituted by phenylalanine, leucine, isoleucine, tryptophan, or methionine.

9. The derivative of claim 6, in which the amino acid residue at position 2 in the amino acid sequence shown in any one of SEQ ID NOs: 25-52 is substituted by leucine, methionine, valine, isoleucine, or glutamine, and/or the amino acid residue at the C-terminus is substituted by valine or leucine.

10. The derivative of claim 7, which comprises the amino acid sequence shown in any one SEQ ID NOs: 53-64.

11. A pharmaceutical composition for treating tumors, which comprises as an active ingredient at least one of substances selected from the tumor antigen peptides and the derivatives according to any one of claims 2 to 10.

12. A recombinant polypeptide obtainable by expressing the recombinant DNA comprising at least one of DNAs that encode the tumor antigen peptides or the derivatives according to any one of claims 2 to 10.

13. A pharmaceutical composition for treating tumors, which comprises as an active ingredient the recombinant polypeptide of claim 12.

14. A diagnostic agent for tumors, which comprises the tumor antigen peptide or the derivative according to any one of claims 2 to 10.

15. A diagnostic agent for tumors, which comprises the recombinant polypeptide of claim 12.